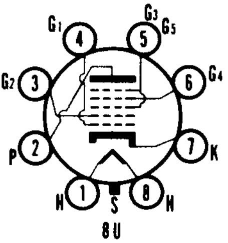


SYLVANIA TYPE 7A8

OCTODE CONVERTER



MECHANICAL DATA

Bulb	T-9, Outline 9-30
Base	Lock-in 8-Pin
Basing	8U
Mounting Position	Any

ELECTRICAL DATA

HEATER CHARACTERISTICS

Heater Voltage	6.3 Volts
Heater Current	150 Ma
Maximum Heater-Cathode Voltage	90 Volts

DIRECT INTERELECTRODE CAPACITANCES (Shielded)[1]

Grid No. 4 to Plate	0.15 μμf	Max
Grid No. 4 to Grid No. 2	0.3 μμf	Max
Grid No. 4 to Grid No. 1	0.15 μμf	Max
Grid No. 1 to Grid No. 2	0.60 μμf	
R F Input, Grid No. 4 to All	7.5 μμf	
Osc. Output, Grid No. 2 to All Except Grid No. 1	3.4 μμf	
Osc. Input, Grid No. 1 to All Except Grid No. 2	3.8 μμf	
Mixer Output, Plate to All	9.0 μμf	

MAXIMUM RATINGS (Design Center Values)

Plate Voltage	300 Volts
Grids No. 3 and 5 Supply Voltage	300 Volts
Grids No. 3 and 5 Voltage	100 Volts
Grid No. 2 Supply Voltage	300 Volts
Grid No. 2 Voltage	200 Volts
Plate Dissipation	1.0 Watt
Grids No. 3 and 5 Dissipation	0.3 Watt
Grid No. 2 Dissipation	0.75 Watt
Cathode Current	13.0 Ma
Positive Grid No. 4 Voltage	0 Volts

TYPICAL OPERATION

Plate Voltage	100	250	Volts
Grids No. 3 and 5 Voltage	75	100	Volts
Grid No. 4 Voltage (Signal Grid)	-3.0	-3.0	Volts
Grid No. 2 Voltage (Osc. Anode)	100	250	Volts[2]
Grid No. 1 Resistor (Osc. Grid)	50000	50000	Ohms
Plate Current	1.8	3.0	Ma
Grids No. 3 and 5 Current	2.7	3.2	Ma
Grid No. 2 Current	2.8	4.2	Ma
Grid No. 1 Current	0.2	0.4	Ma
Self Bias Resistor	400	280	Ohms
Plate Resistance	.65	.70	Megohm
Conversion Transconductance	375	550	μmhos
Grid No. 4 Voltage for G_c = 2 μmhos	-22.5	-30	Volts

CHARACTERISTICS

Oscillator, Non-oscillating Condition[3]

Grid No. 2 Current	10 Ma
Transconductance (Grid No. 1 to Grid No. 2)	1600 μmhos
Amplification Factor (Grid No. 1 to Grid No. 2)	65

NOTES:

1. Shield No. 308 connected to cathode.
2. Applied through 20,000 ohm resistor for E_{c2} = 250 V.
3. Measurements taken with E_b = 250 volts; E_{c2} = 180 volts; E_{c3} = 100 Volts; E_{c1} = 0 volts.

APPLICATION

Sylvania Type 7A8 is a single-ended oscillator-mixer tube. The addition of a suppressor grid serves to increase the plate resistance for improved performance, particularly when operated at low plate supply voltages.

SYLVANIA TUBE TESTER SETTINGS

	A	B	C	D	E	F	G	Test or K
139/140	6.3	0		0	1	056	70	W
	6.3	0		0	2	45	93	X
219/220	6.3	1	8S	65	8	056X	2	7
	6.3	1	8	41	8	4U	3	7